WHAT IS CLAIMED IS:

1. A method for locating a dental target within a digital dental image, said method comprising the steps of:

   segmenting a reference object within a digital dental image to provide a segmented reference, said reference object having a predetermined size dimension;

   segmenting a window in said dental image;

   defining the size and location of said window relative to said segmented reference prior to said segmenting of said window.

2. The method of claim 1 further comprising searching within said dental image from said reference object along a predetermined initializing vector to a start location, said window being inclusive of said start location.

3. The method of claim 1 wherein said segmenting of said window further comprises applying a predetermined active shape model to said dental image.

4. The method of claim 3 wherein said active shape model includes one or more shape parameters.

5. The method of claim 4 wherein said active shape model includes one or more texture parameters.

6. The method of claim 3 wherein said active shape model includes one or more texture parameters.

7. The method of claim 3 wherein said active shape model is inclusive of said reference object.

8. The method of claim 3 wherein said active shape model is exclusive of said reference object.

9. The method of claim 8 further comprising manually providing spatial coordinates of at least two nodes of said window to said active shape model.

10. The method of claim 1 wherein said segmenting of said window further comprises presenting a plurality of different predetermined active shape models and accepting user input selecting one said active shape models as a selected model, and applying said selected model to said dental image.

11. The method of claim 10 wherein said user input is a tooth designation.

12. The method of claim 1 further comprising:

displaying said dental image and said window following said segmenting of said window; and

accepting user adjustment of said window.

13. The method of claim 1 wherein said segmenting is automatic.

14. The method of claim 13 wherein said segmenting of said reference object further comprises:

transforming said dental image from a red-green-blue color space to a hue-saturation-intensity color space.

detecting uniformly colored, spatially-contiguous regions of said dental image; and

determining if one of said regions has properties matching predetermined properties of said reference object.

15. The method of claim 14 wherein said segmenting further comprises, following said determining:

stopping said evaluating when said properties match;

cutting one or more of said regions into subregions when said properties of each of said regions and said predetermined properties of said reference object are mismatched; and

determining if one of said subregions has properties matching predetermined properties of said reference object.

16. The method of claim 1 further comprising:

placing said reference object in a patient's mouth, wherein said reference object defines said start location on said dental target; and

capturing an image of said reference object and said dental target; and

digitizing said image to provide said dental image.

17. A computer program product for locating a dental target within a digital dental image, said product comprising: a computer readable storage medium having a computer program stored thereon for performing the steps of:

segmenting a reference object within a digital dental image to provide a segmented reference, said reference object having a predetermined size dimension;

segmenting a window in said dental image;

defining the size and location of said window relative to said segmented reference prior to said segmenting of said window.

18. A dental shade matching system comprising:

a programmable computer having a microprocessor, computer memory, a computer program stored in said computer memory for performing the steps of:

segmenting a reference object within a digital dental image to provide a segmented reference, said reference object having a predetermined size dimension;

segmenting a window in said dental image;

defining the size and location of said window relative to said segmented reference prior to said segmenting of said window, said computer having a memory interface operatively connected to said microprocessor;

a digital camera having memory operatively connectable to said memory interface; and

a bitable reference object.

19. The system of claim 18 wherein said reference object has a rectangular front face, said front face having a size and shape identified in said program.

20. The system of claim 19 wherein said front face has a uniform tone-scale value.